

What is claimed is:

1. A method of fabricating a semiconductor device comprising:

forming, on a support substrate, through an oxide film, an SOI layer that has an element formation region and an element isolation region;

ion implanting an impurity to the support substrate in the neighborhood of the oxide film so as to extend from a lower portion of the element formation region to a lower portion of the element isolation region and thereby making the support substrate of a portion where the impurity is ion implanted a low electric resistance layer;

heating the support substrate;

forming an element isolation layer in the element isolation region of the SOI layer; and

forming a contact that penetrates through the element isolation layer and the oxide film to reach the low electric resistance layer.

2. A method of fabricating a semiconductor device as set forth in claim 1:

wherein the contact has an adherence layer in a portion that comes into contact with the support substrate.

3. A method of fabricating a semiconductor device as set forth in claim 1:

wherein the impurity is As. ,

4. A method of fabricating a semiconductor device as set forth in claim 1, further comprising:

forming a semiconductor element having a diffusion layer in the element formation region of the SOI layer;

wherein heat treatment of the diffusion layer and heat treatment of the support substrate are simultaneously applied.

5. A method of fabricating a semiconductor device as set forth in claim 1 further comprising:

forming an element isolation layer in the element isolation region of the SOI layer by use of heat treatment;

wherein heat treatment of the element isolation layer and heat treatment of the support substrate are simultaneously applied.

6. A semiconductor device comprising:

an SOI layer and an element isolation layer formed on a support substrate through an oxide film;

a low electric resistance layer extending, in the support substrate in the neighborhood of the oxide film, over from a lower portion of the SOI layer to a lower portion of the element isolation layer; and

a contact that goes through the element isolation layer and the oxide film and reaches down to the low electric resistance layer.

7. A semiconductor device as set forth in claim 6:

wherein the contact has an adhesion layer at a portion that comes into contact with the support substrate.

8. A semiconductor device as set forth in claim 6:

wherein the low electric resistance layer is formed by ion implanting As into the support substrate.